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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,742	01/15/2002	Wenjie Deng	S*EN C-247	3901

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Kalamazoo, MI 49008-1699

EXAMINER
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DAWSON, GLENN K

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3731

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07/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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10-047-742

EXAMINER
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ART UNIT	PAPER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

Please see the attached Examiner's Answer.

Glenn K Dawson  
Primary Examiner  
Art Unit: 3731



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Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/047,742  
Filing Date: January 15, 2002  
Appellant(s): DENG, WENJIE

MAILED

JUL 12 2007

Group 3700

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Brian Tumm  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 03-09-2007 appealing from the Office action mailed 08-31-2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is essentially correct. However, claims 2-4 had no art rejection and should have been listed as being objected to.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The status of claims 2-4 should have been listed as being objected to, not rejected. No art rejections were given for claims 2-4.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6312441	deng	11-2001
5871493	sjostrom, et al.	02-1999
5241990	cook	09-1993
6436067	deng, et al.	08-2002
2525329	wyzenbeek	10-1950
4113288	cox	09-1978

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sjostrom, et al.-5871493 in view of Cook-5241990.

Sjostrom discloses a handpiece attached to a cutter, the handpiece houses a motor and includes a rotatable valve 635 mounted in a chamber in the housing. The valve leads to a suction tube having a coupling 650 at an angle as shown in fig. 3A. However, the valve stem bore openings are not disclosed as being non-circular. Cook discloses that making valve bore openings tear-drop shaped was known at the time of the invention. It would have been obvious to have used tear-drop shaped valve bore openings, as taught by Cook, as this allows for further regulation of the degree of suction flow (see Cook col. 5 lines 10-52). It also would have been obvious to have the bore openings be inverted relative to each other, because it would not make any sense to have one opening have its enlarged section aligned with the small section of the opening at the opposite end of the bore. This would prevent proper regulation of the

suction pressure. It also would not make any sense to have the large portion of the bores aligned first when proceeding from closed to fully open because the degree of suction would be greatest at this point. Using the tear-dropped shape to help adjust the suction would necessitate the smaller sections of the bore openings to align first when going from fully closed to fully opened.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sjostrom, et al. 5871493 in view of Cook-5241990 as applied to the claims above, and further in view of Deng, et al.-6436067.

Sjostrom as modified by Cook makes obvious the invention as claimed with the exception of the indexing assembly. Deng discloses an indexing assembly on a valve. It would have been obvious to have provided Sjostrom with an indexing assembly, as it provided feedback to the user of the valve attaining a specific position.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng, et al.-6436067 in view of Cook-'990.

Deng discloses a handpiece attached to a cutter. The handpiece houses a motor and has a rotatable valve in a valve chamber of the housing. The valve has a lever 60 attached to a stem having valve bores 58. The valve communicates with a suction tube and fitting 46. However, the bores being non-circular is not disclosed. Cook discloses that making valve bores teardrop shaped was known at the time of the invention. It would have been obvious to have used tear-drop shaped valve bores, as taught by Cook, as this allows for further regulation of the degree of suction flow (see Cook col. 5 lines 10-52). It also would have been obvious to have the bores be inverted relative to

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each other, because it would not make any sense to have one opening have its enlarged section aligned with the small section of the opening at the opposite end of the bore. This would prevent proper regulation of the suction pressure. It also would not make any sense to have the large portion of the bores aligned first when proceeding from closed to fully open because the degree of suction would be greatest at this point. Using the tear-dropped shape to help adjust the suction would necessitate the smaller sections of the bore openings to align first when going from fully closed to fully opened.

Claims 29,30 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sjostrom, et al.-'493 in view of Wyzenbeek-2525329 and Cox-4113288.

Sjostrom discloses the invention as claimed with the exception of the rotatable coupling on the suction fitting. Wyzenbeek discloses a rotatable coupling on a suction fitting for a suction tube. It would have been obvious to have provided a rotatable suction fitting coupling on Sjostrom's device, as this allows for the handpiece to rotate relative to the suction tube thus counteracting torsional forces applied while moving an operating the handpiece.

Sjostrom as modified by Wyzenbeek makes obvious the invention as claimed with the exception of the removable locking ring in aligned grooves on the mount and the fitting. Cox discloses a rotatable coupling on a flow tube having a locking member 46 which sits into grooves 50 and 48 on the two members of the rotatable coupling and which removably locks them together. It would have been obvious to have used the connection of Cox for the suction fitting of Sjostrom as it provides a conduit with a



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constant flow diameter while providing a rotatable coupling allowing rotation of one tube to not be translated to the other tube.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7-10 of U.S. Patent No. 6312441 in view of Cook-'990.

Claim 7 of the patent claims the invention as claimed with the exception that the application claims are broader in some respects but narrower in others. The claims of the patent fail to disclose the non-circular valve bore openings. Cook discloses such openings. It would have been obvious to have proved the device of claim 7 with the non-round valve bore openings of Cook, as this allows for more suction control as noted above. To have the openings be in the claimed relative orientation is obvious for the same reasons noted above. Claim 9 of the patent claims the removable locking member of claim 7 of the application.

Claims 5 and 6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7 and 10 of U.S. Patent No. 6312441 in view of Cook-'990 and Deng, et al.-'067.

The difference between claims 5 and 6 of the application are that they include an indexing assembly. Deng discloses an indexing assembly. It would have been obvious to have used an indexing assembly on the device of claims 7 or 10 in order to provide the user with a tactile indication of the valves position.

#### **(10) Response to Argument**

#### ***Response to Arguments***

Applicant's arguments filed 03-09-2007 have been fully considered but they are not persuasive.

Applicant argues that Sjostrom does not disclose the non-circular valve bore openings and that Cook teaches away from a valve body aperture that extends through the valve a significant distance. The examiner disagrees. Sjostrom teaches in fig. 7A of placing a bore entirely through the valve and it has circular bore openings which communicate with the proximal end of angled aspiration tube section and the distal end of the horizontal aspiration tube section. But does not teach the non-circular or tear-drop shaped openings. Cook discloses that non-round, or specifically tear-drop shaped valve bore openings allow for more precise adjustment of aspiration control through the valve. The fact that the valve operates differently does not prevent the above teaching to be

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applied to any hollow rotatable valve which is allowing some type of fluid to enter and exit the valve. Placing tear-drop shaped openings at both ends of the valve bore of Sjostrom would allow for a more precise control of aspiration, as taught by Cook. Both rotatable valves have valve openings and valve bores. The shape of the fluid flow-through just happens to be different in the two valves. The examiner is not substituting any portion of the valve of Sjostrom with any portion of the valve of Cook. The examiner is stating that it would have been obvious to merely change the shape of the openings and/or valve of Sjostrom to be tear-drop shaped, in view of Cook's teachings that such allows for more precise aspiration control. It is not necessary to bodily incorporate a teaching structure into the base reference in order to establish obviousness. One skilled in the art would have gleaned from Cook that valve bore openings in a tear-drop shape have benefits over the normally circular bore openings; one skilled in the art would have known that making the bore openings of Sjostrom in this shape would provide Sjostrom's device better aspiration control. It should also be noted that the applicant's claims do not require that the entire bore be of any particular shape, only that the bore openings be non-round or tear-drop shaped. As for the inversion of claim 9, the examiner contends that given the fact that Sjostrom has both a leading and exiting valve bore opening, that the openings would be placed at such a location and orientation that when either the large or small section of the tear drop shaped opening of the leading valve opening via rotation of the valve started to intersect with the suction tube proximal opening, that the opposite exiting valve bore opening would have the same (large or small) section intersecting the distal end of the downstream suction tube. Otherwise, as

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applicant has stated, the downstream opening would control the degree of suction. Sjostrom's two valve bore openings are the same size in diameter as shown in the figures. That allows the same portion of the valve bore openings at either end to be intersecting the suction tube openings at any particular time. More precise control would be had by aligning the small portions of the tear-drop shaped openings when a small degree of aspiration were desired, and consequently allowing for both large portions of the tear-drop shaped openings to align when more suction were desired. The only manner in which to make this occur is to invert the tear-drop openings. Since they are diametrically opposite each other on the rotatable valve, when rotated to a position such that the middle portions of the tear drop shaped valve bore openings were aligned with the middle of the suction tube, on the leading side the large diameter section of the opening would be below the center portion, and on the opposite trailing side the larger diameter section of the valve bore opening would need to be above the central portion of the opening. This would be necessary so that upon rotation in one direction would bring the same part of the openings into alignment.

The arguments of Deng in view of Cook would be mirrored as above in that, as applicant maintains, the questions of the obviousness of changing the shape of the valve bore openings would be the same for Deng as they were for Sjoström.

As for the obviousness rejection, it is irrelevant what the base patent reference discloses. The fact that the bore openings of the patent disclose or show a circular opening is not germane to the issue of obviousness, only the claimed subject matter is at issue. The examiner contends that the patent claims cover the same invention claimed

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by the applicant, with the exception of the shape of the valve-bore openings. As outlined above, the examiner contends that Cook would have provided motivation for making any valve bore openings, especially in a rotatable valve, of a tear-drop shape for more precise aspiration control, as outlined above.

Wyzenbeek taught generally that it was known that rotatable couplings on suction handpieces/suction hoses was known and that such would tend to limit torque forces applied to the handpiece to be applied or delivered to the suction tube. Cox discloses a type of rotatable coupling with which would prevent torque forces to be applied or delivered to the suction hose. Therefore, it would have been obvious to have provided a rotatable coupling with a locking member to prevent unintended release of the coupling while preventing torque transmission to the suction hose. Nothing in Cox states that the connection is permanent, as indicated by the appellant. The ring is a locking ring, but since the ring 46 is stated as being resilient to allow for the distal end of 42 to ride over it, it stands to reason that if someone desired, sufficient withdrawal traction force would again cause ring 46 to essentially allow for 42 to release from 44.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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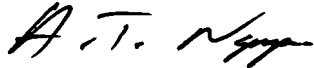
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Conferees:

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